

GENERIC LIMITS IN THE ALOMIINAE (EUPATORIEAE - ASTERACEAE),  
AND NEW COMBINATIONS IN *BRICKELLIASTRUM* AND *BARROETEA*

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ABSTRACT

Broadened concepts of the genera *Brickellia* and *Steviopsis* in the subtribe Alomiinae are rejected, and new combinations are provided in *Barroetea* for *Brickellia sonorana* B.L. Turner and in *Brickelliastrum* for *Steviopsis nesomii* B.L. Turner.

KEY WORDS: *Barroetea*, *Brickellia*, *Brickelliastrum*, *Flyriella*, *Phanerostylus*, *Steviopsis*, Asteraceae, taxonomy, nomenclature

Recent alternative generic concepts in the subtribe Alomiinae of the Eupatorieae have been presented by Turner (1988, 1990, 1991, 1994) and Turner *et al.* (1991). These concepts are not accepted here for reasons already presented by King & Robinson (1987) in their summary of the Eupatorieae. Still, two new combinations are necessary, and a few comments seem in order.

The tendency to broaden the concept of *Brickellia* Elliot to include species with only five ribs on the achene, once placed in *Eupatorium* L., was initiated by Harcombe & Beaman (1967). The group involved was later recognized by King & Robinson (1987) as a separate genus *Phanerostylus* (A. Gray) R.M. King & H. Rob. Since then, the concept of *Brickellia* has been extended further by Turner (1991) and Turner *et al.* (1991) to include both *Phanerostylus* and the related but previously distinct *Barroetea* A. Gray. The unified concept of Turner seems to be defined only by having a chromosome number of  $x = 9$ . The closely related *Flyriella* R.M. King & H. Rob., that has similar pubescence on the style base but has a base number of  $x = 10$ , is excluded. The concept of *Brickellia* accepted here and by King & Robinson (1987) continues to rely on characteristics other than chromosome number and exclude species without 10-ribbed achenes from the genus. *Barroetea* is defined by its obcompressed achenes combined with distinctive prickles on the points of the leaves. *Phanerostylus* is distinguished by its unique type of dense papillosity on the large corolla lobes and style branches. Turner *et al.* (1991) and Turner (1991) consider *Barroetea glutinosa* Brandegees (*Phanerostylus glutinosa* [Brandegee] R.M. King & H. Rob. ■ *Brickellia problematica* B.L. Turner, *nom. nov.*) as intermediate between *Barroetea* and *Phanerostylus*. It has somewhat obcompressed achenes as in *Barroetea*, but lacks the leaf form or the aspect of the plants. The species has the papillosity of *Phanerostylus* to which it seems closely related, and in which it is best placed, in spite of the branching inflorescence.

Turner (1991), in his recent review of *Barroetea* (as part of *Brickellia* subg. *Phanerostylus*), reduced two traditional species to synonymy. *Barroetea brevipes*

B.L. Rob. was placed in *B. laxiflora* Brandegee and *B. setosa* A. Gray was placed in *B. subuligera* (Schauer) A. Gray. These have not been fully reevaluated here, but the new species of *Barroetia*, described by Turner (1991) as a *Brickellia*, is in need of a new combination.

*Barroetia sonorana* (B.L. Turner) R.M. King & H. Rob., *comb. nov.*  
BASIONYM: *Brickellia sonorana* B.L. Turner, *Phytologia* 71:51. 1991.

A second area of the Alomiinae that has suffered alteration involves the genus *Steviopsis* R.M. King & H. Rob. The genus was originally proposed (King & Robinson 1971) for a few narrow-leaved species from west-central México that have weakly subimbricate involucre and sometimes whorled leaves. *Steviopsis* is one of a group of the Alomiinae in México lacking hairs on the style base. The concept was broadened by Turner (1988) to include the related *Dyscritogyne* R.M. King & H. Rob. and *Asanthus* R.M. King & H. Rob. which have more strongly subimbricate involucral bracts. *Dyscritogyne* differs also by the distinctive glandular pubescence of its achenes. The *Steviopsis* and *Dyscritogyne* grouping was traditionally placed in *Eupatorium* rather than the related *Brickellia*, while species of *Asanthus* have been placed in *Brickellia*. Members of the broader concept may have 5-7 or even 10 ribs on the achenes. *Brickelliastrum* R.M. King & H. Rob. then including only *B. fendleri* (A. Gray) R.M. King & H. Rob., and at that time known only from the United States, was not included in *Steviopsis* by Turner (1988). However, one species later named as *Steviopsis nesomii* B.L. Turner by Turner (1990) was later renamed as a new species, *Brickelliastrum villarrealii* R.M. King & H. Rob. by King & Robinson (1994). A new combination for the older Turner name of the second species of *Brickelliastrum* is needed. Unfortunately, the combination provided by Turner (1994) for *B. fendleri* in *Steviopsis* was the wrong combination, reducing all of *Brickelliastrum* to synonymy under *Steviopsis*. The relationship between the latter two genera seems particularly tenuous, with *Brickelliastrum* having the flattened outer surfaces of the pappus bristles, a characteristic of closer relatives of *Brickellia* in the Alomiinae. It remains necessary to make the appropriate new combination for the second species of *Brickelliastrum*.

*Brickelliastrum nesomii* (B.L. Turner) R.M. King & H. Rob., *comb. nov.*  
BASIONYM: *Steviopsis nesomii* B.L. Turner, *Phytologia* 68:410. 1990.  
*Brickelliastrum villarrealii* R.M. King & H. Rob., *Phytologia* 76:17. 1994.

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